REMARKS

The Office Action dated February 4, 2008, and the references cited therein have been considered. Applicants have provided the text (with a modification to fix a typographical error) of the Abstract from the PCT application upon which the present application is based in response to item 2 on page 2 of the Office Action. Claims 1-20 have been rejected. No claims currently stand allowed. **None of Applicants' amendments were necessitated by any ground for rejection stated in the Office Action.**

The claimed invention is directed to an apparatus (and corresponding method) for compensating for variations in luminescence and/or color in a voltage-driven flexible display such as those arising from bending the flexible display. The invention includes measuring cell gap for at least part of a display and thereafter adjusting a voltage applied to the part of the display based on the measured gap. The measuring and adjusting are performed repeatedly while the apparatus is in use. The effect of this periodic measuring and adjusting is to maintain a relatively stable luminescence of a flexible display in the presence of changes to cell gap distances (leading to changes in luminescence of the affected cells).

Applicants' recited repeated measuring and adjusting is neither taught nor suggested by the combined teachings of the Ma and Irvin references. Ma, the reference upon which the Office Action primarily relies, discloses an organic LED having an adjustable brightness based on varying either a pulse width of a constant voltage source or a voltage magnitude. Ma's adjustment of a voltage adjusts brightness based upon an intended level of brightness for the particular LED element. Nowhere does Ma disclose or even remotely suggest Applicants' claimed "measuring means for measuring the cell gap" which provides a way for compensating cell gap changes in a flexible display while in use. **Applicants specifically request identification of the "measurement" means/step recited in presently pending claims 1 and 16 in the event that the present grounds for rejection are not withdrawn.**

In view of the remarks provided herein below, Applicants request favorable reconsideration of the previously rejected claims. Please charge any fee deficiencies to Deposit Account No. 12-1216.

Summary of the Rejections Based Upon the Prior Art

1. Claims 1-7, 9, and 11-20 are rejected as obvious under 35 U.S.C. Section 103(a) over Ma et al. U.S. Patent No. 6,677,709 (Ma).

2. Claims 8 and 10 are rejected as obvious under 35 U.S.C. Section 103(a) over Ma in view of Irvin et al. U.S. Patent No. 6,876,723 (Irvin).

Applicants traverse the grounds for each and every rejection of claims 1-20 for at least the reasons set forth herein.

Summary of Applicants' Claimed Invention

Applicants' claimed invention is directed to an apparatus (flexible display and associated control components) including a flexible display, the flexing of which causes a change in the cell gaps of cells within portions of the display subjected to the stresses of bending the display. The effect of the changed cell gaps is to change the luminescence of the cells for a given voltage level. The claimed invention measures and compensates for changes in cell gaps (by modifying voltages) while the flexible display is in use by repeatedly measuring the cell gaps and adjusting the voltages applied to the cell gaps in response to the measured changes. See, e.g., Applicants' published Application US 2006/0109391 at paragraphs [0066 - 0067] and [0083 – 0088].

Summary of the Teachings of the Cited Prior Art Stone Reference

The Ma reference, upon which the Office Action primarily relies, discloses an OLED device where the brightness of a given cell is adjustable. Adjusting the brightness of a particular cell is achieved by applying a varying pulse width or alternatively modifying a magnitude of an applied voltage.

Ma does indeed disclose that such a display can be flexible. Importantly, Ma does not disclose variations in brightness arising from flexing the display. Moreover, Ma does not even suggest a need to compensate for luminescence variations arising from such flexing or that such flexing can be remedied while the display is in use through repeated measurements and responsive adjustments.

The circuitry for an OLED element described at column 5, lines 29-53 of Ma does not appear to be subject to changes in luminescence arising from flexing the display. A first conductive layer 170 turns the cell on or off by creating a contact between a second conductive layer 190 and a cathode 140. Bending the display potentially changes the tendency of individual display element to turn on/off (by changing the gap for the first conductive layer 170). However, the luminescence of the cell in Ma is unaffected by the bending of the display since the second conductive layer 190 and the cathode 140 are already in contact when the brightness-controlling voltage is applied via the second conductive layer 190. There is clearly no need to adjust the voltage applied to the second conductive layer 190 to compensate for variations in cell gaps/luminescence arising from, for example, bending of the flexible display.

Applicants' Remarks Concerning the Specific Grounds for the Rejection

a. The Rejection Claims 1-7, 9, and 11-20 as Obvious Over Ma

Applicants traverse the rejection of claims 1-7, 9, and 11-20 as obvious over Ma since Ma neither discloses nor suggests each of the elements recited in Applicants claims – and thus a *prima facie* case of obviousness has not been established by the Office Action. In particular, with regard to each of the independent claims (1 and 16), Ma neither discloses nor suggests the recited *repeated measurement of cell gaps* and *responsive adjustment* of a voltage applied to a part of a display to compensate for variations in luminescence or color arising from bending a flexible display.

Applicants have explained previously herein above that the invention recited in each of the independent claims (1 and 16) is directed to repeatedly measuring a cell gap and, *in response to the measured cell gap*, adjusting the applied voltages for cells forming a part of the display. Ma discloses a circuit wherein the brightness of an element, once activated, is unaffected by bending. The brightness is unaffected since, as explained at column 5, lines 29-48, there is no variable gap present between the electrodes that create the resulting light. Thus, not only does Ma not disclose the recited measurement means/step, there does not appear to be any reason for taking such measurements since flexing only determines whether or not a particular element will become active at a particular applied first voltage and not the brightness of the activated element (controlled by a separate conductor).

In the event the rejection of claims 1 and 16 is not withdrawn, Applicants request identification within Ma of: (1) the measurement means/step, (2) adjustment means/step that is *responsive to the measurement means/step*, and (3) *any* motivation in the prior art to modify Ma to include each of these missing elements within each of the independent claims.

Applicants traverse the rejection of each and every one of the dependent claims for at least the above stated reasons.

Applicants traverse the rejection of **claims 2 and 17** since Ma does not even teach *any* repeated measuring step to which a responsive adjusting step is performed on a constant repeated basis. Furthermore, claims 2 and 17 specify a constant repetition period for the measurement and responsive adjustment of a voltage. In the event the rejection is not withdrawn, Applicants request specific identification of this alleged teaching in Ma.

Applicants traverse the rejection of **claims 3 and 18**. The Office Action states that Ma teaches the duty cycle of an OLED is controlled to control its brightness. Applicants submit that controlling a duty cycle does not change a *repetition period* – it merely changes a portion of the time that a signal is at an active level within the fixed repetition period. Thus, Ma does not disclose the claimed apparatus/method for controlling a repetition frequency of either the measurement or adjusting steps/operations (as a function of user settings and/or operation conditions.

Applicants traverse the rejection of **claims 4 and 19** that specify invoking the adjusting of voltages only when a change in cell gap is detected. The adjustment referenced in Ma by the Office Action relates to turning an OLED on/off – not the luminescence. Also, Ma discloses changing the applied voltage in view of variations in *stiffness* of the cantilever 210 – not a change in a *cell gap*.

Applicants traverse the rejection of **claims 5 and 20** since Ma does not disclose a change "threshold" that invokes adjustment of the applied voltage to a cell. Also, Ma does not even disclose changes to cell gaps affecting the luminescence of the cells.

Applicants traverse the rejection of **claims 6, 7, 9 and 11** for at least the reasons stated herein above regarding claim 1. Applicants furthermore note that, with regard to **claim**

6, Ma does not disclose a measurement means distributed along an axis of flexibility in a display that flexes in only one direction.

Applicants traverse the rejection of **claim 12** which recites the measurement means measuring a cell gap by measure a time for charging a pixel by a constant voltage conductor. Ma does not disclose measuring a cell gap, and moreover does not disclose anything even remotely corresponding to Applicants recited measurement means based on a "charge time". Applicants specifically request identification of the portions of Ma disclosing use of a charge time to measure a cell gap.

Applicants traverse the rejection of **claim 13** which recites the measurement of cell gaps by applying an AC signal on a row conductor and measuring an amplitude on a column conductor. Ma's disclosure does not disclose measuring a cell gap, and moreover does not disclose the particular way recited in claim 13. In the event the rejection of claim 13 is not withdrawn, Applicants request identification of the portions of Ma disclosing the specifically recited measurement means.

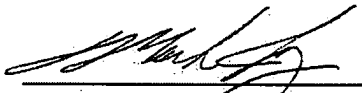
b. The Rejection of Claims 8 and 10 As Obvious Over Ma in View of Irvin

Applicants traverse the rejection of **claims 8 and 10** as obvious under 35 U.S.C. Section 103(a) over Ma in view of Irvin. In addition to the reasons set forth herein above with regard to claim 1, from which claims 8 and 10 depend, Applicants furthermore note that even if one skilled in the art were to combine the teachings of Ma and Irwin, the combined teachings would not result in the claimed invention. Irwin does indeed mention a lithographic technique. However, the "piezoelectric crystal" is part of the inkjet used to make the display and is not an element of the display structure itself. In the event the rejection of claims 8 and 10 are not withdrawn, Applicants request identification of the piezoelectric crystal *within* the flexible display.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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